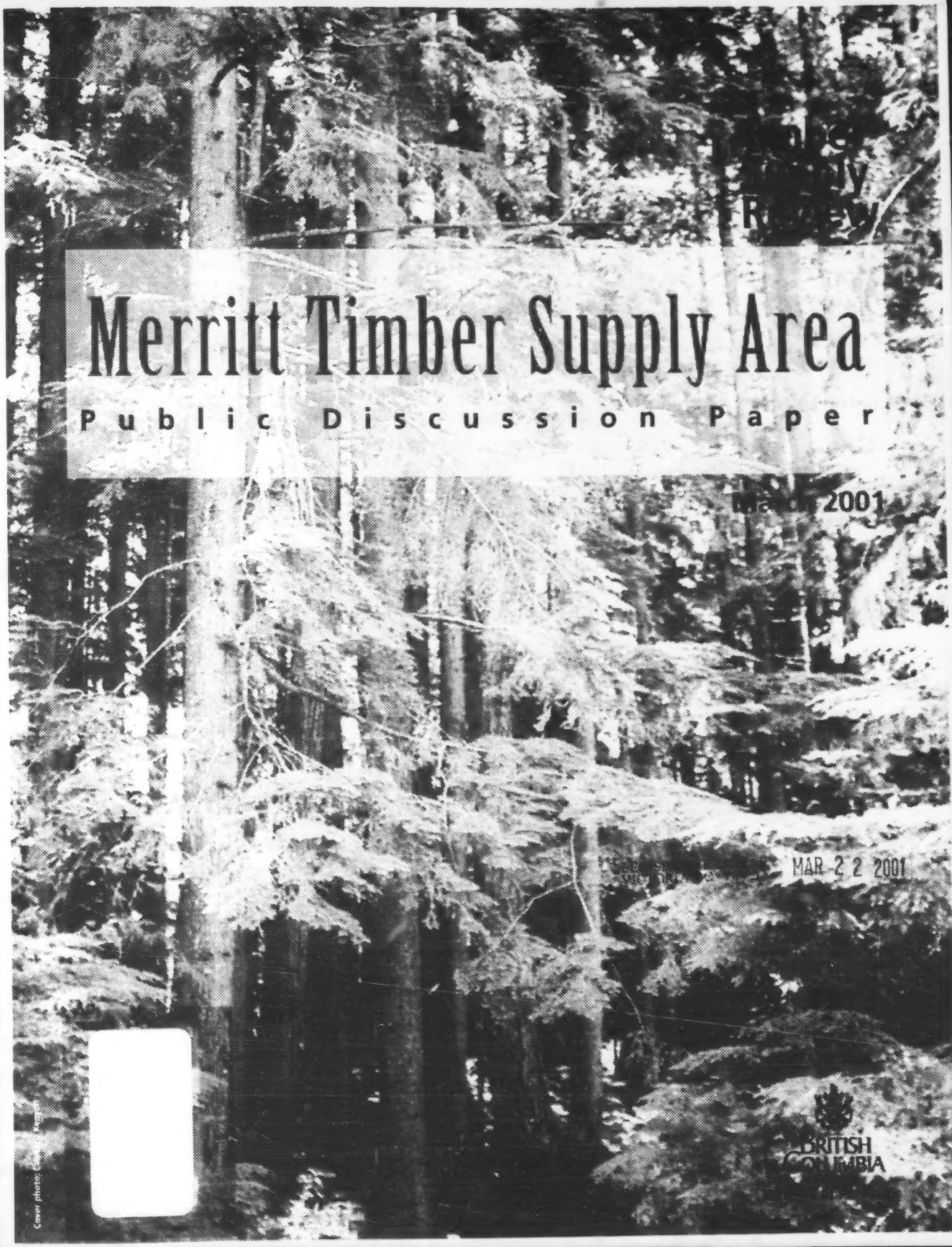


Merritt Timber Supply Area

Public Discussion Paper

March 2001

MAR 2 2 2001

BRITISH COLUMBIA

Cover photo: [illegible]

LEGISLATIVE LIBRARY OF BRITISH COLUMBIA
3 3298 00245 1087

Introduction

The British Columbia Forest Service is reviewing the timber supply for all timber supply areas (TSAs) and tree farm licences (TFLs) in the province. This review examines the impacts of current forest management practices on the timber supply, economy, environment and social conditions of the local area and the province. Based on this review, the chief forester may, if necessary, adjust the allowable annual cut (AAC) for the Merritt TSA.

By law, the chief forester must review and set new AACs for all TSAs and TFLs every five years. The objectives of the Timber Supply Review are:

- to identify relevant current forest management practices and assess their effects on short- and long-term timber supply, and identify related economic, environmental and social factors
- to identify where improved information is required for future timber supply forecasts
- to provide the chief forester with information to make any necessary adjustments to the AACs for the next five years

Timber Supply Review in the Merritt TSA

The *Merritt TSA Data Package* and *Information Report* were released in September 1999. Following the release, the documents were reviewed by licensees, the public and government agencies. The BC Forest Service has now completed the *2001 Merritt TSA Analysis Report*, which is summarized in this discussion paper. The objectives of this document are to provide British Columbians with an overview of the Timber Supply Review process and harvest level forecasts for the Merritt TSA, and with an opportunity to provide comments during the 60-day public review period. **Public comments will be accepted until May 7, 2001.**

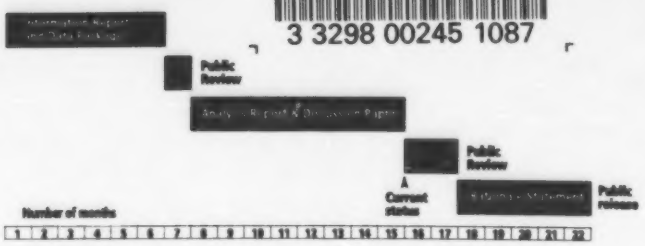
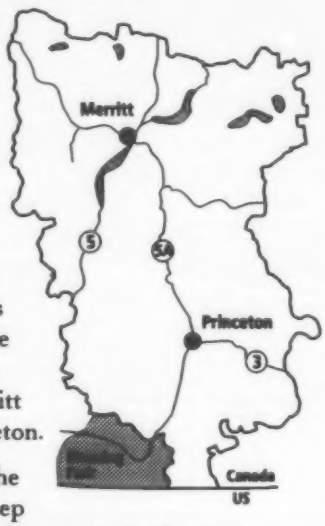


Figure 1. *Review process for the Merritt TSA*

Before setting a new AAC, the chief forester will review all relevant reports and public input. The chief forester will outline his determination in a rationale statement that, along with the summary of public input, will be publicly available upon release. Following the release of the AAC determination by the chief forester, the minister of forests may apportion the AAC to the various licences and programs. Most frequently, apportionments change only if the TSA AAC changes.

Description of the TSA



The Merritt TSA is located in south-central British Columbia and covers approximately 1.13 million hectares of the Kamloops Forest Region. The boundaries of the TSA are similar to those of the Merritt Forest District, which also includes several provincial parks. The TSA is administered by the forest district office in Merritt and the field office in Princeton.

The Merritt TSA includes the mountainous terrain and steep river valleys of the Cascade Mountains in the west and the relatively dry, flat Thompson Plateau in the east. The TSA encompasses two major river systems: the Similkameen and the Nicola. The Merritt TSA is the bordered to the north by the Kamloops TSA, to the west by the Lillooet and Fraser TSAs, and to the east by the Okanagan TSA. Manning Park, Cathedral Park and the Canada-U.S.A. border lie to the south.

** A timber supply area is an integrated resource management unit established in accordance with section 7 of the Forest Act.*

The Merritt TSA is sparsely populated and includes several small communities. The major population centres are Merritt and Princeton, where about 60 per cent of the TSA's population of 16,830 (1996 census) reside. Smaller communities include Tulameen, Brookmere, Missezula Lake, Douglas Lake, Lower Nicola, Osprey Lake and Allison Lake.

The natural resources

The forest land in the Merritt TSA provides numerous natural resource values, including forest products, forage, minerals, fish, wildlife, and recreation and tourism opportunities. Extensive grassland and forested areas provide forage vegetation for both livestock and wildlife.

Lodgepole pine stands, which occupy about two-thirds of the timber harvesting land base, dominate the forests in the Merritt TSA. Douglas-fir, spruce, ponderosa pine, trembling aspen and subalpine fir are also common. The timber harvesting land base—the area considered available for harvesting—comprises about 58 per cent of the Merritt TSA.

The diverse landscapes of the Merritt TSA provide a variety of wildlife habitats, including grasslands, lakes and wetlands, forested slopes, and alpine areas. At lower elevations, a greater number of species are present. Mule deer, moose, black bear and many smaller furbearers, as well as many species of birds and amphibians, are common.

Grizzly bears also occur within the Merritt TSA and are part of the North Cascades grizzly bear population unit, which is considered a threatened population. As part of the Grizzly Bear Conservation Strategy, the province has committed to undertake plans to ensure the recovery of grizzly bear populations. A recovery plan to address the grizzly bear population in the North Cascades area is one of two pilot projects in southern B.C. that were announced in 1999. Once complete, the plan will outline the steps required to return the population to long-term viability.

The Forest Practices Code outlines a process for identifying species at risk that require special management. Currently, 19 species identified as at risk may be found in the Merritt TSA, including tailed frog, Northern goshawk and white-headed woodpecker.

Water is a primary and fundamental resource of the Merritt TSA. Numerous rivers, lakes and streams support many species of fish, such as rainbow trout, kokanee, burbot, mountain whitefish, eastern brook trout, bull trout and steelhead. Coho, chinook and pink salmon spawn in the Nicola River. Significant demands are also placed on water resources for domestic and agricultural purposes. There are currently 10 community watersheds within the Merritt TSA.

Parks, recreation sites and trails, and roaded and non-roaded areas provide opportunities for numerous outdoor activities. Both residents and tourists enjoy recreation activities such as hiking, camping, hunting, fishing, wildlife watching, boating, mountain-biking, snowmobiling, and ski touring. A number of small parks and popular recreation areas are in the vicinity of the Merritt TSA, including the Coquihalla Summit Recreation Area, Cascade Recreation Area, Manning Park and Cathedral Park. Recreation visits to the Merritt TSA have increased significantly over the last 10 years.

Land use planning

Currently, a land and resource management plan has not been initiated in the Merritt TSA. Proposed protected areas have been identified and may be established as part of the completion of a higher level plan or by order-in-council. Only land-use planning decisions that have received final approval from government will be reflected in this timber supply review.

Current allowable annual cut

In January 1996, the chief forester established an allowable annual cut (AAC) in the Merritt TSA of 1,454,250 cubic metres. This included a partition of 250,000 cubic metres for small-diameter pine stands, often called "smallwood."

In January 1999, a new AAC of 2,004,250 cubic metres was established as a result of a temporary increase of 550,000 cubic metres per year. The increase was needed to salvage timber from the 1998 Lawless Creek fire and to control the mountain pine beetle infestation in the southern portion of the timber supply area. The salvage of damaged timber from the fire is complete. The beetle infestation has declined and harvesting of infested timber is occurring at lower levels.

The current AAC includes 8,700 cubic metres apportioned to the woodlot licence program. After deducting the harvest associated with issued woodlot licenses that are now excluded from the TSA and the temporary increase of 550,000 cubic metres for fire- and insect-killed timber, the base level for the purpose of this analysis is considered to be 1,445,550 cubic metres per year.

Socio-economic profile

Regional economy

Although the communities in the Merritt TSA are not heavily homogeneous and/or single-industry dependent, they are also not economically well diversified. As Figure 2 shows, the public sector, forestry and tourism are the major employment sectors with a total of 70 per cent of the labour force. Agriculture, construction and mining are also important parts of the local economy. Forestry is the largest contributor to private-sector employment at 24 per cent. Tourism, which employs 20 per cent of the labour force, has grown significantly over the last decade and is expected to remain a high-growth sector of the economy over the next decade.

Notes: The figures are for the Merritt TSA. Percentages reflect direct, indirect and induced employment supported by the basic sector. "Other" (basic sectors) consist of transportation and some manufacturing.

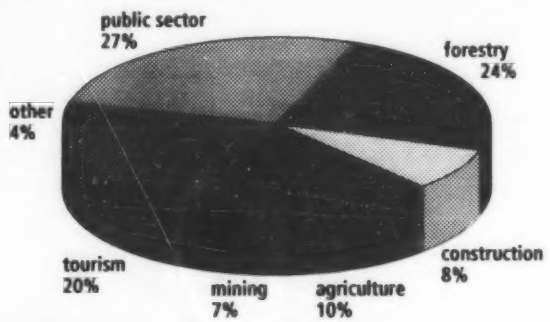


Figure 2. *Merritt TSA – Estimates of Total Employment by Sector, 1996*

Source: 1996 Forest District tables, BC Ministry of Finance and Corporate Relations

The forest sector supports numerous other jobs in the area through companies and employees purchasing goods and services from local businesses. Each 100 full-time direct forestry jobs in the Merritt TSA are estimated to support another 20 to 40 jobs, depending on the forestry activity (harvesting or timber processing). In comparison, 100 direct jobs in the public sector support 10 to 20 indirect and induced jobs, while 100 tourism jobs support an additional six to 13 positions.

Table 1 illustrates the potential contribution of the forest industry associated with the Merritt TSA timber harvest to both the regional and provincial economies. Figures in this table are based on the average 1996-1999 annual harvest of 1,424,218 million cubic metres.

	TSA	Provincial
Direct employment (person years)	1,058	1,274
Total employment (person years)	1,364	3,006
Total employment income ($1999 millions per year)	43.0	85.1
Provincial government revenues ($1999 millions per year)	n.a.	50.6

Table 1.
Summary of local and provincial economic information associated with the average 1996-1999 annual harvest.

Timber supply forecasts

A timber supply computer model was used to project several possible timber supply forecasts for the next 250 years. One of these forecasts is the base case forecast that illustrates the effect of current forest management on timber supply. The base case is not an AAC recommendation, but rather one of many sources of information the chief forester will consider when setting the AAC.

The base case forecast is presented in this report for discussion and comparison; due to areas of uncertainty, the AAC determined by the chief forester may be greater or less than the level forecast in the base case.

As Figure 3 shows, the timber supply analysis for the Merritt TSA indicates that a base level of 1,445,550 cubic metres can be maintained for six decades. After that, the timber supply is projected to decline by approximately nine per cent per decade for three decades before reaching the long-term harvest level of 1.12 million cubic metres per year.

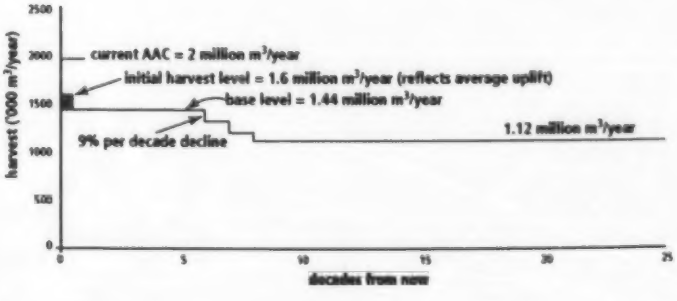


Figure 3. *Base case timber supply forecast for the Merritt TSA, 2001*

Compared to the 1994 timber supply analysis for the Merritt TSA, several changes have occurred that affect the base case timber supply forecast. The timber harvesting land base is about 25 per cent larger than in 1994, mainly due to the inclusion of some stands previously considered unmerchantable. This increase has been slightly offset by reductions for inoperable areas. In addition, the implementation of the Forest Practices Code, including further reductions for riparian areas and wildlife tree patches, and requirements for visual quality, wildlife habitat and biodiversity, has affected timber availability.

Sensitivity analyses: examining uncertainty

Because forests are complex and constantly changing, timber supply analysts assess how their timber supply forecast results might be affected by uncertainties in the inventory information and management practices. These uncertainties are generally examined through what are called sensitivity analyses, which the chief forester will consider in determining an AAC. The sensitivity analyses are useful for assessing how any changes in information or uncertainties and risks might affect timber supply.

In the Merritt TSA, a number of sensitivity analyses were conducted to examine the stability of the timber supply in light of uncertainties. Several key sensitivity analyses are described below. For a complete listing of sensitivity analyses, please refer to the *2001 Merritt TSA Analysis Report*.

Uncertainty in existing stand yields

Although a recent audit indicates that estimates of volumes in existing stands are statistically acceptable, some uncertainty still exists and further study is ongoing. Since the base level is approximately 23 per cent higher than the long-term harvest level, changes in existing stand volumes could have a significant effect on timber supply. Figure 4 illustrates the results of sensitivity analyses in which stand volumes were increased and decreased by 10 per cent.

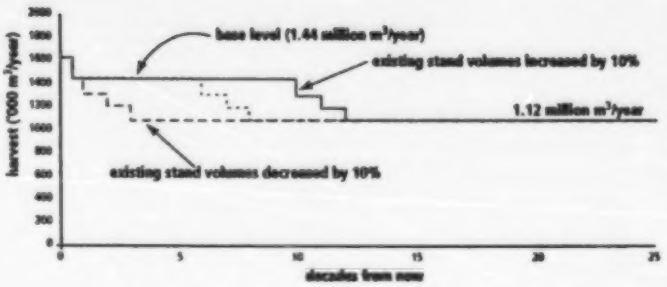

base level (1.44 million m³/year)
existing stand volumes increased by 10%
1.12 million m³/year
existing stand volumes decreased by 10%
harvest (000 m³/year)
decades from now

Figure 4. *Harvest forecast showing the effects of changes to the volume estimates for existing unmanaged stands—Merritt TSA, 2001*

If existing volumes are decreased by 10 per cent, the base level could only be maintained for one decade and would reach the long-term harvest level five decades earlier than in the base case harvest forecast. If existing volumes are increased by 10 per cent, the base level is forecast to be maintained for 10 decades and would reach the long-term harvest level four decades later than in the base case harvest forecast.

Uncertainty in the status of proposed protected areas

There are several proposed protected areas in the Merritt TSA. Since cabinet has not yet designated these protected areas, they are still part—about five per cent—of the timber harvesting land base.

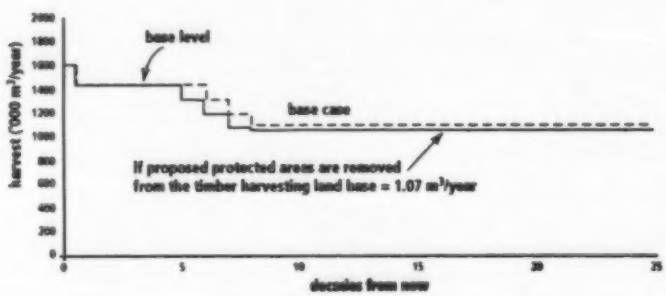

base level
base case
If proposed protected areas are removed
from the timber harvesting land base = 1.07 m³/year
harvest (000 m³/year)
decades from now

Figure 5. *Harvest forecast if all proposed protected areas are excluded from timber harvesting land base—Merritt TSA, 2001*

Figure 5 shows that by removing the proposed protected areas from the timber harvesting land base, the base level could be maintained for five decades and would reach the long-term harvest level one decade earlier than in the base case forecast. As well, the long-term harvest level would be approximately four per cent lower than in the base case forecast.

Old-Growth Site Index Research

The results of two recent provincial studies suggest that the future productivity of sites currently occupied by old-growth stands may be underestimated. The research shows that the measured productivity of existing second-growth stands is higher than the productivity estimates using measurements from old-growth stands growing on ecologically similar sites. These results are based on the maximum potential site productivity that might be achieved under ideal conditions. However, in the field, regeneration and subsequent growth does not always occur under ideal conditions due to factors such as competition from brush or overstocking. Therefore, some stands may not reach the potential productivity suggested by research.

The results of these studies apply to stands older than 140 years, which make up 20 per cent of the timber harvesting land base in the Merritt TSA. While there are no local studies to verify the application of the results of the provincial studies to the Merritt timber supply area, the results of the sensitivity analysis indicate that the long-term timber supply could be as much as 15 per cent higher than currently estimated.

Innovative Forestry Practices Agreements

In July 1997, the major licensees together with First Nations and the Small Business Forest Enterprise Program submitted an application for Innovative Forestry Practices Agreements (IFPAs) in the Merritt TSA. To co-ordinate this application and the development of innovative management approaches for the area, the participants formed the Nicola-Similkameen Innovative Forestry Society. The society is currently undertaking several projects, including ecosystem classification and fish stream inventories, to improve forest management information for the area.

Innovative agreements allow the holder(s) to request an increase in the allowable annual cut associated with their replaceable licence. Based on these agreements, the Forest Service regional manager may determine increases to replaceable licence AACs. The IFPA process is not part of the Timber Supply Review in which the chief forester determines AACs for TSAs and TFLs. This discussion paper focuses on the Timber Supply Review process for the Merritt TSA. At this time, the members of the Nicola-Similkameen Innovative Forestry Society have submitted a Forestry Plan, but have yet to request an AAC increase. It is expected that an increase may be requested later in 2001.

Implications of changes in the AAC

Environmental Implications

Current forest management follows the standards set out by the Forest Practices Code. These standards are designed to maintain a range of biodiversity and wildlife values. In the Merritt TSA analysis area, about 20 per cent of the productive Crown forest is not considered available for timber harvesting and will provide for many environmental values. Forested area both in and outside of the timber harvesting land base will aid in the maintenance of critical forest habitats for many species. Forest cover requirements for biodiversity, scenic areas, ungulate winter range, elk habitat, and community watersheds were included in the analysis.

First Nations Implications

The Nlaka'pamux Nation and the Okanagan Nation have traditional territories within the Merritt TSA. Currently, six First Nation communities are located in the TSA with a combined population of about 2,360 people. These are the Coldwater Band, Lower Nicola Band, Nooaitch Band, Shackan Band, Upper Nicola Band and Upper Similkameen Band. Four other First Nations communities located outside the TSA have reserves and traditional interests within the TSA, including the Westbank Band. The Westbank Band is the only band with interests in the Merritt TSA that is currently in formal negotiations under the provincial Treaty process.

Some First Nations have expressed concerns regarding possible harvesting impacts on ethno-botanical forest resources and areas of cultural and spiritual importance, as well as on fisheries and wildlife resources. More recently, some bands have questioned the impacts of stand tending practices on small furbearing mammals. Several First Nations have expressed interest in securing wood supply and several are actively participating in the forest industry, including membership in the Nicola-Similkameen Innovative Forestry Society. Several bands also hold woodlot licences within the Merritt Forest District.

Community Implications

The implication of changes in the AAC for local communities is an important consideration in the Timber Supply Review. The base case harvest forecast for the Merritt TSA suggests a harvest level of 1,445,550 cubic metres could be maintained for 60 years. The average actual harvest level from 1996 through 1999 was about 1,424,218 cubic metres. If the base level is fully harvested and utilized, employment or other industry-related activities in the Merritt TSA forestry sector could be marginally higher than the 1996-1999 average.

Your input is needed

Establishing the AAC is an important decision that requires well-informed and thoughtful public input. Feedback is welcomed on any aspect of this discussion paper, the *2001 Merritt TSA Analysis Report* and other issues related to the timber supply in the Merritt TSA. Forest Service staff would be pleased to answer questions or discuss concerns that would help you prepare your response. Please send your comments to the forest district manager at the address below. **Your comments will be accepted until May 7, 2001.**

You may identify yourself on the response if you wish. If you do, you are reminded that responses will be subject to the Freedom of Information and Protection of Privacy Act and may be made public. If the responses are made public, personal identifiers will be removed before the responses are released.

A summary of public comments will be attached to the AAC rationale and will be available from the district office when the chief forester's AAC determination is announced.

For more information contact and/or mail your comments to:
District Manager
BC Forest Service
Merritt Forest District
PO Box 4400, Stn. Main
Highway 5A & Airport Rd
Merritt, BC V1K 1B8
Phone: (250) 378-8400, Fax: (250) 378-8481

Or electronically mail to
Dave.McBeth@gems2.gov.bc.ca

Visit our website at http://www.for.gov.bc.ca/tsb

Background Information Regarding TSR

The Chief Forester's Responsibility

Determining the allowable annual cuts (AACs) for public forest lands in British Columbia is the responsibility of the province's chief forester. In this lengthy and complex process, the chief forester considers technical reports, analyses and public input, as well as government's social and economic objectives.

This responsibility is required by legislation in the *Forest Act,* Section 8. It states that the chief forester shall specifically consider the following factors:

1. The rate of timber production that may be sustained from the area, taking into account:
   - the composition of the forest and its expected rate of growth
   - the time that it will take the forest to become re-established
   - silviculture treatments, including reforestation
   - standards of timber utilization
   - constraints on the amount of timber that may be produced due to use of the forest for other purposes.
2. The short- and long-term implications to the province of alternative rates of timber harvesting from the area.
3. The nature, production capabilities and timber requirements of established and proposed processing facilities.
4. The economic and social objectives of the Crown for the area, region and province—as expressed by the minister of forests.
5. Abnormal insect or disease infestations, and major salvage programs planned for the timber on the area.

Some of these factors can be readily measured and analyzed—others cannot. Ultimately, the chief forester's determination is an independent professional judgment based on the best available information. By law, the chief forester is independent of the political process, and is not directed by the minister of forests when determining AACs. In these determinations, the chief forester considers relevant information from all sources.

Why the current AAC may be higher than the long-term harvest level.

Some concern has been expressed that the AACs are higher than the long-term harvest level. There are two main factors that explain this difference:

- In the short term, harvesting takes place in older forests that have accumulated high timber volumes by growing for a long time. Future harvesting on the same sites will take place in second-growth forests at younger ages, often yielding lower volumes per hectare.
- Where the long-term harvest level is significantly below the current AAC, the chief forester's strategy is to gradually reduce the AACs in a managed transition to the lower level over several decades (provided the long-term harvest level is not jeopardized). This allows communities that rely on the forest sector to avoid sudden economic disruptions and to plan for the future.

BRITISH COLUMBIA